

حمل الآن

مجاناً وحصرياً

امتحانات رقم (1)

الترم الاول



Some Schools Examinations



on Algebra and Statistics

1

Cairo Governorate


 East Nasr City Administration
 Manart Al Salam Language School

Answer the following questions :

1 Choose the correct answer :

- 1 The slope of any line parallel to X-axis is
 (a) 1 (b) undefined. (c) -1 (d) zero.
- 2 $[1, 3] - \{1, 3\} = \dots\dots\dots$
 (a) $]1, 3[$ (b) $[1, 3[$ (c) $] -3, -1[$ (d) $] -1, 3[$
- 3 The volume of the cuboid whose dimensions are $\sqrt{2}$ cm. , $\sqrt{3}$ cm. and $\sqrt{6}$ cm. is cm^3
 (a) 6 (b) 36 (c) $6\sqrt{6}$ (d) $18\sqrt{2}$
- 4 If the lower limit of a set is 6 and the upper limit is 10 , then its centre is
 (a) 4 (b) 6 (c) 10 (d) 8
- 5 $(2^3\sqrt{2})^3 = \dots\dots\dots$
 (a) 4 (b) 8 (c) 16 (d) 40

2 Complete :

- 1 The multiplicative inverse of $\frac{\sqrt{2}}{6}$ is
- 2 The S.S. of the equation : $x^2 + 9 = 0$ in \mathbb{R} is
- 3 $(\sqrt{7} + 2)(\sqrt{7} - 2) = \dots\dots\dots$
- 4 Let A (-3 , 1) and B (2 , -5) , then the slope of $\overrightarrow{AB} = \dots\dots\dots$

3 [a] Find in the simplest form : $\sqrt{18} + \sqrt{50} - \sqrt{54}$

[b] If $x = \frac{4}{3 - \sqrt{5}}$ and $y = 3 - \sqrt{5}$, prove that : x and y are conjugate numbers , then find the value of : $(x + y)^2$

4 [a] If $X = [-1, 4]$ and $Y = [2, 7]$, then find each of :

1 $X \cup Y$

2 $X \cap Y$

[b] If (3 m , 2 m) satisfies the relation : $y = 2x - 8$, find the value of : m

5 [a] Find the S.S. of each of the following in \mathbb{R} :

1 $8x^3 - 20 = 7$

2 $3x + 7 \leq 10$

[b] Find the arithmetic mean of the following frequency distribution :

The sets	0 –	4 –	8 –	12 –	16 –	Total
Frequency	2	10	8	7	3	30

2

Cairo Governorate



**Maadi Directorate
Al-Shorouk Language School**

Answer the following questions :

1 Choose the correct answer :

1 The volume of a cube is 125 cm^3 , then its edge length is cm.

(a) 5

(b) 25

(c) 50

(d) 125

2 The multiplicative inverse of $\frac{\sqrt{6}}{2}$ is

(a) $-\frac{\sqrt{6}}{2}$

(b) $\frac{\sqrt{6}}{3}$

(c) $3\sqrt{6}$

(d) $2\sqrt{6}$

3 The slope of X-axis is

(a) 0

(b) $\frac{1}{2}$

(c) -1

(d) undefined.

4 If $(k, 1)$ satisfies the relation : $x + y = 5$, then $k =$

(a) -4

(b) 1

(c) 4

(d) 5

5 If the mode of the values : 4, 11, 8, $x + 1$ is 4, then $x =$

(a) 3

(b) 4

(c) 5

(d) 8

2 Complete each of the following :

1 $\sqrt{12} + \frac{6}{\sqrt{3}} =$ (in the simplest form)

2 The slope of the line passing through $(2, 4)$ and $(3, -1)$ equals

3 The mean of the values : 2, 4, 7, 3, 5, 9 is

4 $\mathbb{Q} \cup \mathbb{Q} =$

3 [a] Find the solution set of the inequality : $-2 < 3x + 7 < 10$ in \mathbb{R} , then represent the S.S. on the number line.

[b] If $x = \sqrt{5} - \sqrt{3}$ and $y = \frac{2}{\sqrt{5} - \sqrt{3}}$

, prove that : x and y are conjugate numbers , then find : $x^2 + y^2$

4 [a] If $X =]-1, 4]$ and $Y = [2, \infty[$, find using the number line :

1 $X \cap Y$

2 $X \cup Y$

3 $X - Y$

[b] If the volume of a sphere is $36\pi \text{ cm}^3$, find its area.

5 [a] Represent graphically the relation : $y - x = 2$

[b] From the following frequency distribution, find the mean :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20

3

Giza Governorate



Al-Agoza Directorate
El-Manar Islamic Language School

Answer the following questions :

1 Choose the correct answer :

1 $\sqrt{6} \in \dots\dots\dots$

(a) \mathbb{N}

(b) \mathbb{Q}

(c) \mathbb{Q}

(d) \mathbb{Z}

2 $\sqrt[3]{\dots\dots\dots} + \sqrt[3]{27} = \sqrt[3]{64}$

(a) 25

(b) -125

(c) 125

(d) 5

3 $[3, 5] -]3, 5] = \dots\dots\dots$

(a) $\{3\}$

(b) $]3, 5[$

(c) $\{3, 5\}$

(d) $\{5\}$

4 The multiplicative inverse of $\frac{2\sqrt{3}}{6}$ is $\dots\dots\dots$

(a) $\sqrt{3}$

(b) $\frac{2\sqrt{3}}{5}$

(c) $\frac{2\sqrt{3}}{6}$

(d) $\frac{5\sqrt{3}}{6}$

5 If $x = \sqrt{2} + 3$, $y = \sqrt{2} - 3$, then $x^2 - y^2 = \dots\dots\dots$

(a) $\sqrt{2} + 3$

(b) $12\sqrt{2}$

(c) $6\sqrt{5}$

(d) $3\sqrt{6}$

2 Complete :

1 If $(3, n)$ satisfies the relation : $2x + y = 7$, then $n = \dots\dots\dots$

2 If $x = \sqrt[3]{3} + 1$, $y = \sqrt[3]{3} - 1$, then $(x - y)^3 = \dots\dots\dots$

3 The S.S. of : $x^2 + 25 = 0$ in \mathbb{R} is $\dots\dots\dots$

4 $\sqrt{7}$ lies between the two integers $\dots\dots\dots$, $\dots\dots\dots$

3 [a] Simplify : $\sqrt[3]{128} + \sqrt[3]{16} - 2\sqrt[3]{54}$

[b] If $x = \sqrt{5} - 3$, $y = \sqrt{5} + 3$, then find : xy

[c] If the mode of the numbers : 3 , 5 , 6 , $2x$, 5 , 6 is 6 , find : x

4 [a] Find using the number line : $[-2, 2] \cap [1, 5]$

[b] Find the volume of the cuboid of dimensions 2 cm. , $2\sqrt{5}$ cm. , $3\sqrt{5}$ cm.

[c] Find the median of the numbers : 4 , 11 , 5 , 20 , 13

5 [a] Find the S.S. of : $-3 \leq 2x + 1 < 7$ in \mathbb{R} , then represent it on the number line.

[b] If $x = \sqrt{5} + 2$, $xy = 1$ find : y and prove that : x , y are two conjugate numbers.

[c] Find the mean of the following data :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	20	30	15	25	10	100

4

Giza Governorate



Math Inspection

Answer the following questions :

1 Choose the correct answer from those given :

[1] If $3x = 6$, then $5x = \dots\dots\dots$

(a) $\frac{5}{2}$

(b) $\frac{2}{5}$

(c) 10

(d) 5

[2] The slope of the straight line passing through (2 , 4) and (4 , 6) equals $\dots\dots\dots$

(a) -1

(b) 1

(c) 7

(d) zero

[3] If (a , 1) satisfies the relation : $x + y = 5$, then $a = \dots\dots\dots$

(a) -4

(b) 1

(c) 4

(d) 5

[4] $[3, 5] - \{3\} = \dots\dots\dots$

(a) $[3, 4]$

(b) $[3, 5[$

(c) $\{3, 4\}$

(d) $]3, 5]$

[5] The median of the values : 5 , 3 , 11 , 7 , 2 is $\dots\dots\dots$

(a) 3

(b) 5

(c) 7

(d) 8

2 Complete each of the following :

[1] $2^3 \times 2^3 = \dots\dots\dots$

[2] If the radius length of a sphere is 6 cm. , then its volume is $\dots\dots\dots \text{cm}^3$

3 The slope of y-axis is

4 The mode of the values : 3 , 5 , 3 , 4 , 3 is

3 [a] Find in the simplest form : $\sqrt[3]{24} + \sqrt{12} - 2\sqrt[3]{3} - 2\sqrt{3}$

[b] If $x = \sqrt{3} + \sqrt{2}$, $y = \frac{1}{\sqrt{3} + \sqrt{2}}$, find the value of : $x^2 - y^2$

4 [a] The dimensions of a cuboid are 3 cm. , 4 cm. and 5 cm.

Calculate its volume and its total area.

[b] Find in \mathbb{R} the S.S. of the inequality : $3x - 1 \geq 8$, then represent the solution set on the number line.

5 [a] Represent the relation : $y = x + 2$ graphically.

[b] Find the mean of the following frequency distribution :

Sets	4 -	8 -	12 -	16 -	20 -	Total
Frequency	2	4	8	6	4	24

5

Alexandria Governorate



East Zone
Supervision of Mathematics

Answer the following questions :

1 Choose the correct answer :

1 The S.S. of $(x + 2)^3 = 125$ in \mathbb{R} is

(a) {3} (b) {5} (c) {7} (d) \emptyset

2 If the order of the median of a set of values is the fourth , then the number of the values is

(a) 3 (b) 5 (c) 7 (d) 9

3 If A is (2 , 7) and B is (5 , -2) , then the slope of \overleftrightarrow{AB} =

(a) -2 (b) 2 (c) -3 (d) 3

4 If $5x = 35$, then $2x + 1 =$

(a) 7 (b) 15 (c) 8 (d) 71

5 The multiplicative inverse of $\frac{\sqrt{3}}{6}$ is

(a) $-\frac{\sqrt{3}}{6}$ (b) $6\sqrt{3}$ (c) $2\sqrt{3}$ (d) $-2\sqrt{3}$

2 Complete the following :

- 1 If $7^x = 1$, then $x = \dots\dots\dots$
- 2 If the mode of the values : 5 , 9 , 5 , $x - 2$, 9 is 9 , then $x = \dots\dots\dots$
- 3 If $(-1, 5)$ satisfies the relation : $2x + y = k$, then $k = \dots\dots\dots$
- 4 The slope of any line parallel to y-axis is $\dots\dots\dots$

3 [a] Find in the simplest form : $\sqrt[3]{54} + 4\sqrt[3]{\frac{1}{4}} - \sqrt[3]{2}$ **[b] If $A =]-1, 3]$ and $B = [0, 5[$, then find :**

- 1 $A \cap B$ 2 $B - A$

4 [a] If the volume of a sphere is $288\pi \text{ cm}^3$, find its area.**[b] Find the S.S. of the inequality : $-2 < 3x + 7 \leq 10$ in \mathbb{R} , then represent the interval of the solution set on the number line.****5 [a] Represent graphically the relation : $y = 2x - 3$** **[b] By using the following distribution :**

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	7	9	12	k	4	40

- 1 Find the value of k 2 Find the arithmetic mean.

6 El-Kalyoubia Governorate

Maths Supervision
Official Language Schools

*Answer the following questions :***1 Choose the correct answer from those given :**

- 1 The slope of the straight line perpendicular to y-axis is $\dots\dots\dots$
 (a) undefined. (b) 0 (c) 1 (d) -1
- 2 The ordered pair which does not satisfy the relation : $3x + y = -7$ is $\dots\dots\dots$
 (a) $(-1, -4)$ (b) $(1, 4)$ (c) $(0, -7)$ (d) $(1, -10)$
- 3 A circle is of area $16\pi \text{ cm}^2$, then the length of its diameter equals $\dots\dots\dots$ cm.
 (a) 4 (b) 8 (c) 12 (d) 16
- 4 If the point $(30, 50)$ is the point of intersection of the ascending and descending curves, then the sum of its frequency equals $\dots\dots\dots$
 (a) 30 (b) 50 (c) 60 (d) 100

- 5 A cube is of volume 27 cm^3 , then the sum of its edge lengths equals cm.
 (a) 4 (b) 12 (c) 18 (d) 36

2 Complete the following :

- 1 $[1, 5] - \{1, 5\} = \dots\dots\dots$
 2 If the mode of the values : 3, 6, 9, 3 x is 6, then $x = \dots\dots\dots$
 3 The third of the number 3^6 is
 4 The relation $3x + 4y = 12$ is represented by a straight line which cuts x -axis at the point

3 [a] If $X = [-1, 2]$ and $Y = [1, 3]$, find using the number line :

- 1 $X \cap Y$ 2 $X - Y$

[b] Simplify to the simplest form : $\sqrt{75} - 2\sqrt{27} - 6\sqrt{\frac{1}{3}}$

4 [a] If the slope of the straight line which passes through the points $(2k, 3)$ and $(3, 1 - k)$ is one, find : the value of k

[b] Find in \mathbb{R} the solution set of the inequality : $4x \leq 5x + 2 \leq 4x + 3$

5 [a] A sphere where its radius length is 3 cm. Find its volume and surface area in terms of π

[b] The following table represents the marks of 20 students in mathematics :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20

Find the mean mark of the students marks.

7 El-Monofia Governorate



Shibeen El-Koum Directorate
Maths Supervision

Answer the following questions : (Calculators are allowed)

1 Choose the correct answer :

- 1 The slope of the straight line which is perpendicular to x -axis is
 (a) zero (b) -1 (c) 1 (d) undefined.
 2 If the arithmetic mean of the numbers : 2, 7, x equals 4, then $x = \dots\dots\dots$
 (a) 2 (b) 3 (c) 4 (d) 5
 3 The ordered pair which satisfies the relation : $2x + y = 5$ is
 (a) $(-1, 3)$ (b) $(1, 3)$ (c) $(3, 1)$ (d) $(2, 2)$

4 If $3^x = 1$, then $x = \dots\dots\dots$

- (a) -1 (b) 1 (c) zero (d) 3

5 The median of the values : 15 , 22 , 9 , 11 , 33 is $\dots\dots\dots$

- (a) 15 (b) 9 (c) 18 (d) 90

2 Complete the following :

1 The conjugate of the number $\frac{3}{\sqrt{5}-\sqrt{2}}$ is $\dots\dots\dots$

2 If $A = (2, y)$, $B = (5, 3)$ and the slope of \overrightarrow{AB} = zero , then $y = \dots\dots\dots$

3 The solution set of the inequality : $-x > 3$ in \mathbb{R} is $\dots\dots\dots$

4 $[3, 7] - \{3, 8\} = \dots\dots\dots$

3 [a] Prove that the points A , B , C lie on the same straight line (collinear) if A (2 , -1) , B (-3 , 4) , C (-4 , 5)

[b] A right circular cylinder its height is 4 cm. Find the length of its base radius if the volume of the cylinder is $64\pi \text{ cm}^3$

4 [a] If $X = [-1, 4[$, $Y = [2, \infty[$, find by using the number line :

- 1 $X \cap Y$ 2 $X \cup Y$ 3 $X - Y$

[b] Find the solution set of the inequality in \mathbb{R} : $-2 < 5x + 3 < 13$, then represent it on the number line.

5 [a] Put in the simplest form : $3\sqrt[3]{16} + \sqrt{50} - 2\sqrt[3]{54} - 2\sqrt{8}$

[b] Find the mode of the following frequency distribution by using the histogram :

Sets	10 -	20 -	30 -	40 -	50 -	60 -	Total
Frequency	3	8	12	8	5	4	40

8

El-Gharbia Governorate



Central Mathematics Supervision
Official Language Schools

Answer the following questions :

1 Choose the correct answer from the given ones :

1 $[3, 5] - \{5\} = \dots\dots\dots$

- (a) $\{3\}$ (b) $[0, 3]$ (c) $[3, 4]$ (d) $[3, 5[$

2 If the point (m , 2) satisfies the relation : $y + 2x = 8$, then $m = \dots\dots\dots$

- (a) 2 (b) 3 (c) 4 (d) 5

3 The slope of the horizontal straight line is

- (a) 1 (b) -1 (c) zero. (d) undefined.

4 If the lower limit of a set is 10, the upper limit is X and its centre is 15, then $X = \dots\dots\dots$

- (a) 10 (b) 12 (c) 20 (d) 25

5 If $2X^m + 3X^n = 5X^5$, then $m + n = \dots\dots\dots$

- (a) 5 (b) 10 (c) 15 (d) 6

2 Complete the following :

1 Half the number 4^5 is 2.....

2 The cube whose volume is 8 cm^3 , then the sum of all edge lengths is cm.

3 If the slope of the straight line passing through $(2, k)$, $(3, -1)$ is 2, then $k = \dots\dots\dots$

4 If the mode of the values : 4, 5, 6, $X + 3$ is 5, then $X = \dots\dots\dots$

3 [a] Simplify to the simplest form : $\sqrt{125} + 2\sqrt{80} - \sqrt{20} - \sqrt{45}$

[b] Find the S.S. of each of the following in \mathbb{R} :

1 $(X - 3)^3 = 8$

2 $8 + 3X < 14$, then represent the solution on the number line.

4 [a] Graph the relation : $y - 2X = 4$ and find the slope of the straight line from the graph.

[b] If $X = \frac{3}{\sqrt{6} - \sqrt{3}}$ and $y = \sqrt{6} - \sqrt{3}$, then find with steps the value of : $\frac{Xy}{X - y}$

5 [a] If $X =]-\infty, 5]$, $Y =]1, 7]$, find using the number line :

1 $X \cap Y$

2 $Y - X$

[b] From the following distribution find :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	$k - 1$	6	3	2	20

1 The value of k

2 The arithmetic mean.



Answer the following questions :

1 Choose the correct answer :

1 $\mathbb{R}_+ \cap \mathbb{R}_- = \dots\dots\dots$

(a) \mathbb{R}_+

(b) \mathbb{R}

(c) \emptyset

(d) \mathbb{R}_-

2 The slope of the straight line parallel to y-axis is

(a) 0

(b) 1

(c) -1

(d) undefined.

3 $10x + 2x = \dots\dots\dots$

(a) $12x^2$

(b) $12x$

(c) $20x$

(d) $20x^2$

4 The order of the median of the values : 5 , 7 , 6 , 4 and 8 is

(a) third.

(b) fourth.

(c) fifth.

(d) sixth.

5 If the point (a , 1) satisfies the relation : $x + y = 5$, then a =

(a) 1

(b) -4

(c) 4

(d) 5

2 Complete the following :

1 The mode of the values : 3 , 6 , 5 , 6 , 3 , 6 , 5 is

2 If $x \in [-2, 5]$, then $x^2 \in [\dots\dots\dots, \dots\dots\dots]$

3 The square whose side length is $\sqrt{5}$ cm. , its area is cm^2

4 If A , B and C are collinear points , then the slope of \overrightarrow{BC} = the slope of

3 [a] Find the slope of \overrightarrow{AB} where A (-1 , 3) and B (2 , 5)

[b] Simplify : $\sqrt[3]{128} + \sqrt[3]{16} - 2\sqrt[3]{54}$

4 [a] Find the S.S. of the equation in \mathbb{R} : $(x^2 + 4)(x^2 - 9) = 0$

[b] A right circular cylinder , the length of its base radius is 7 cm. , its height is 10 cm. ,
Find its volume.

5 [a] If $x = \sqrt{3} - \sqrt{2}$ and $y = \frac{1}{\sqrt{3} - \sqrt{2}}$, find the value of : $x + y$

[b] Find the arithmetic mean of the following table :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	2	1	3	3	1	10



Answer the following questions :

1 Choose the correct answer :

- 1 The irrational number that lies between 2 , 3 is
 (a) $\sqrt{3}$ (b) 2.5 (c) $\sqrt{10}$ (d) $\sqrt{7}$
- 2 If the point of intersection of the ascending and descending curves is (12 , 40) , then the median is
 (a) 12 (b) 40 (c) 56 (d) 18
- 3 The S.S. of the equation : $x + 7 = |-7|$ in \mathbb{N} is
 (a) \emptyset (b) $\{14\}$ (c) $\{-14\}$ (d) $\{0\}$
- 4 A right cylinder its volume is $90\pi \text{ cm}^3$ and its height is 10 cm. , then the radius length of its base is cm.
 (a) 2 (b) 4 (c) 6 (d) 3
- 5 If (k , 1) satisfies the relation : $x + y = 6$, then k =
 (a) 1 (b) 5 (c) -5 (d) -4

2 Complete the following :

- 1 If the points $A = (1 , 4)$, $B = (3 , 7)$, then the slope of $\overleftrightarrow{AB} = \dots\dots\dots$
- 2 $\sqrt{8} + \sqrt{2} = \dots\dots\dots$
- 3 The mode of the values : 4 , 2 , 3 , 5 , 4 , 4 is
- 4 If the lower limit is 6 and the upper limit is 10 for a set of values , then the centre of this set is

3 [a] Find in \mathbb{R} the S.S. of the inequality : $-1 < 3x - 7 \leq 5$

[b] If $x = \sqrt{5} - \sqrt{3}$, $y = \frac{2}{\sqrt{5} - \sqrt{3}}$, prove that : x , y are conjugate numbers
 , then find the value of : $\frac{x+y}{xy}$

4 [a] If $A =]-3 , 3]$, $B = [1 , 6[$, find :

- 1 $A \cap B$ 2 $A \cup B$

[b] Find in the simplest form : $\sqrt{50} - \sqrt{18} - 2\sqrt{2}$

5 [a] Find three ordered pairs satisfying the relation : $y = 5 - x$

[b] The following table shows the frequency of marks of 20 students :

Sets	5 –	15 –	25 –	35 –	45 –	Total
Frequency	4	5	6	3	2	20

Find the arithmetic mean for the marks of students.

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El-Fayoum Governorate



Directorate of Education

Answer the following questions : (Calculator is allowed)

1 Choose the correct answer from those given :

[1] If the mode of the values : 6 , 12 , 11 , 4 k is 12 , then k =

- (a) 2 (b) 3 (c) 4 (d) 6

[2] The arithmetic mean of the values : 7 , 8 , 16 , 9 is

- (a) 10 (b) 11 (c) 8 (d) 17

[3] The straight line representing the relation : $2x + 5y = 10$ intersects the X-axis at the point

- (a) (2 , 0) (b) (5 , 0) (c) (0 , 2) (d) (0 , 5)

[4] $\sqrt[3]{8k^6} = \dots\dots\dots$

- (a) $2k^2$ (b) $3k^3$ (c) $4k^2$ (d) $8k$

[5] If four times a number = 60 , then third of this number =

- (a) 8 (b) 9 (c) 15 (d) 5

2 Complete the following :

[1] $3m^2n^3 \times \dots\dots\dots = 15m^3n^5$

[2] If (k , 2 k) satisfies the relation : $x + 2y + k = 42$, then k =

[3] The slope of the straight line passing through the two points (0 , 4) , (4 , 5) is

[4] A sphere its diameter length = 6 cm. , then its volume = $\pi \text{ cm}^3$

3 [a] If $A =]-1 , 2]$, $B =]0 , 3]$, find using the number line each of the following :

[1] $A \cup B$

[2] $A \cap B$

[b] If $x = \frac{5}{\sqrt{7}-\sqrt{2}}$, $y = \sqrt{7}-\sqrt{2}$

, prove that : x , y are two conjugate numbers and find the value of : $(x + y)^2$

4 [a] A cube its lateral area = 64 cm^2 Find :

- 1 its edge length. 2 its total area.
3 its volume.

[b] Find with steps in the simplest form the value of : $2\sqrt[3]{27} + 3\sqrt[3]{12} - 4\sqrt[3]{3} + \frac{1}{3}\sqrt[3]{27}$

5 [a] Represent graphically the relation : $2x + 3y = 12$

[b] Find the values of A , B , then find the arithmetic mean of the following frequency distribution :

Sets	0 –	4 –	8 –	A –	16 –	Total
Frequency	5	10	14	6	B	40

12

Souhag Governorate



Directorate of Education
Math Supervision

Answer the following questions :

1 Choose the correct answer :

1 $\mathbb{R}_+ \cup \mathbb{R}_- = \dots\dots\dots$

- (a) \mathbb{R} (b) $\mathbb{R} - \{0\}$ (c) \emptyset (d) $\{0\}$

2 The slope of the horizontal line is

- (a) 1 (b) undefined. (c) zero (d) 2

3 $]8, 10[\cup \{8, 9, 10\} = \dots\dots\dots$

- (a) $[8, 10]$ (b) $]8, 10[$ (c) $[8, 10[$ (d) $\{8, 10\}$

4 The lower limit of a set is 10 and its centre is 15 , then its upper limit is

- (a) 10 (b) 15 (c) 20 (d) 30

5 $\sqrt[3]{9} = \sqrt[3]{\dots\dots\dots}$

- (a) 64 (b) 9 (c) 36 (d) 27

6 If the intersection point of the ascending and descending curves is (15 , 9) , then the median equals

- (a) 6 (b) 15 (c) 9 (d) 30

2 Complete each of the following :

1 If the mode of the values : 15 , 11 , 5 a , 12 is 15 , then a =

2 If the point (5 , 2) satisfies the relation : $2x + y = c$, then c =

3 If the total area of a cube is 36 cm^2 , then its volume is cm^3

4 If $\frac{1}{x} = \sqrt{5} - 2$, then $x = \dots\dots\dots$ (in the simplest form)

5 The slope of the straight line passing through the points (3, 5) and (1, 1) is $\dots\dots\dots$

6 The S.S. in \mathbb{R} of : $(x^2 + 4)(x^2 - 9) = 0$ is $\dots\dots\dots$

3 [a] Find in \mathbb{R} the S.S. of the inequality : $-2 < 3x + 4 \leq 16$ and represent it on the number line.

[b] Simplify : $\sqrt{75} - 2\sqrt{27} + 3\sqrt{\frac{1}{3}}$

4 [a] Find the base radius length of a right circular cylinder whose height is equal to its base radius length if its volume is $27\pi \text{ cm}^3$.

[b] If $x = \sqrt{7} - \sqrt{5}$, $y = \frac{2}{\sqrt{7} - \sqrt{5}}$, then find the value of : $(x + y)^2$

5 [a] If $X = [-2, 6]$, $Y = [-3, 4]$, find using the number line :

1 $X \cup Y$

2 $X - Y$

[b] Find the arithmetic mean of the following frequency distribution :

Sets	5 –	15 –	25 –	35 –	45 –	Total
Frequency	7	10	12	13	8	50

For more
examinations
on
**Algebra
and
Statistics**



كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



خطوة 1



خطوة 2
اختيار اسم
الطابعة
بتاعتك

خطوة 3
كتابة الصفحات
المراد طباعتها
نكتب رقم 4 ثم
نكتب الشرطة
دي - ثم نكتب 9

خطوة 4
اختيار نوع الورق



خطوة 5
اختيار A4



خطوة 6

حمل الآن

مجاناً وحصرياً

امتحانات رقم (2)

الترم الاول



Some Schools
Examinations

on Algebra and Statistics

1

Cairo Governorate

El-Nouzha Educ. Admin
St. George's College*Answer the following questions :***1 Choose the correct answer :**

- 1 If $(k, 1)$ satisfies the relation : $x + y = 5$, then $k = \dots\dots\dots$
 (a) -4 (b) 1 (c) 4 (d) 5
- 2 If the volume of a cube is 64 cm^3 , then its edge length is $\dots\dots\dots$ cm.
 (a) 4 (b) 8 (c) 16 (d) 64
- 3 If the mode of the values : $4, 11, 8, 2, x$ is 4 , then $x = \dots\dots\dots$
 (a) 2 (b) 4 (c) 6 (d) 8
- 4 The multiplicative inverse of $\frac{\sqrt{6}}{2}$ is $\dots\dots\dots$
 (a) $-\frac{\sqrt{6}}{2}$ (b) $\frac{\sqrt{6}}{3}$ (c) $\frac{\sqrt{6}}{2}$ (d) $2\sqrt{6}$
- 5 If the lower boundary of a set is 4 and its upper boundary is 8 , then its centre is $\dots\dots\dots$
 (a) 2 (b) 4 (c) 6 (d) 8
- 6 The slope of y -axis is $\dots\dots\dots$
 (a) 0 (b) $\frac{1}{2}$ (c) -1 (d) undefined.

2 Complete each of the following :

- 1 The simplest form of : $(\sqrt{3} - \sqrt{2})(\sqrt{3} + \sqrt{2})$ is $\dots\dots\dots$
- 2 $[3, 5] - \{3, 5\} = \dots\dots\dots$
- 3 If the slope of the line passing through $(2, k)$ and $(3, -1)$ is 2 , then $k = \dots\dots\dots$
- 4 The mean of the values : $34, 23, 25, 40, 22, 12$ is $\dots\dots\dots$
- 5 $\sqrt[3]{125} = \sqrt{\dots\dots\dots}$
- 6 If the age of Ramy now is x years , then his age after 12 years is $\dots\dots\dots$ years.

3 [a] Represent the relation : $2x + y = 4$ graphically , then find the slope of the line representing the relation.

[b] Find the solution set of the inequality : $-2 < 3x + 7 \leq 10$ in \mathbb{R} , then represent the S.S. on the number line.

4 [a] Find the lateral area of the right circular cylinder of volume $150\pi \text{ cm}^3$ and height 6 cm.

[b] If $X =]-1, 4]$ and $Y = [3, \infty[$, using the number line find each of the following :

1 $X \cup Y$

2 $X \cap Y$

3 $X - Y$

5 [a] If $X = \sqrt{3} + 1$ and $y = \frac{2}{\sqrt{3} + 1}$, prove that : X and y are conjugate numbers

, then find the value of : $X^2 + y^2$

[b] The following table shows the distribution of the marks of 50 pupils in mathematics :

Sets	10 -	20 -	30 -	40 -	50 -	Total
Frequency	8	12	14	9	7	50

Find the mean of these marks.

2

Cairo Governorate



Middle Cairo Educational Zone

Answer the following questions :

1 Choose the correct answer :

1 $\sqrt[3]{49} \times 2\sqrt[3]{7} = \dots\dots\dots$

(a) $\sqrt[3]{7}$

(b) 7

(c) 14

(d) 28

2 The S.S. of the equation : $2X + 6 = 0$ is $\dots\dots\dots$ when $X \in \mathbb{Z}$

(a) -6

(b) -3

(c) $\{-3\}$

(d) \emptyset

3 $\sqrt[3]{10} \in \dots\dots\dots$

(a) \mathbb{N}

(b) \mathbb{Z}

(c) \mathbb{Q}

(d) \mathbb{Q}^{\sim}

4 If the mode of : 7, 3, X , 7, 5, 3 is 7, then $X = \dots\dots\dots$

(a) 7

(b) 8

(c) 3

(d) 5

5 $3a + a = \dots\dots\dots$

(a) $4a^2$

(b) $4a$

(c) $3a$

(d) $4a^3$

6 $\sqrt{25x^8} = \dots\dots\dots$

(a) $25x^4$

(b) $5x^8$

(c) $5x^4$

(d) $5x^6$

2 Complete the following :

1 The slope of the straight line which is parallel to X -axis is $\dots\dots\dots$

2 If (1, 5) satisfies the relation : $X + y = c$, then $c = \dots\dots\dots$

- 3 The slope of the straight line passing through the points (3, 5) and (1, 1) is
- 4 $\mathbb{Q} \cup \mathbb{Q} = \dots\dots\dots$
- 5 If the order of the median of a set of values is the third, then the number of these values is
- 6 The mean of the values : 10, 12, 8, 6 is

- 3 [a] Find in the simplest form : $\sqrt[3]{50} - 2\sqrt[3]{18} + \sqrt[3]{2}$
- [b] If $x = \sqrt{7} + 2$, $y = \sqrt{7} - 2$
 , find : 1 xy 2 $(x + y)^2$

- 4 [a] Represent graphically in \mathbb{R} the relation : $y = x + 1$
- [b] Find in \mathbb{R} the S.S. of the inequality and represent it on the number line :
 $-3 \leq 2x + 1 < 7$

- 5 [a] The volume of a sphere is $36\pi \text{ cm}^3$. Find its radius length.

- [b] From the following frequency distribution :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20

Find the mean.

3

Giza Governorate



Maths Inspection

Answer the following questions :

- 1 Choose the correct answer :

- 1 The multiplicative inverse of $\frac{\sqrt{2}}{6}$ is
- (a) $\sqrt{3}$ (b) $3\sqrt{2}$ (c) $\sqrt{6}$ (d) $\frac{\sqrt{2}}{2}$
- 2 The ordered pair satisfying the relation : $2x + y = 5$ is
- (a) (-1, 3) (b) (3, 1) (c) (2, 2) (d) (1, 3)
- 3 $\sqrt[3]{16 + 9} = 4 + \dots\dots\dots$
- (a) 25 (b) 3 (c) 1 (d) 0
- 4 If the volume of a cube is 64 cm^3 , then its lateral area is cm^2
- (a) 4 (b) 6 (c) 64 (d) 96

5 If $5X = 35$, $XY = 1$, then $y = \dots\dots\dots$

(a) $\frac{1}{35}$

(b) 35

(c) $\frac{1}{7}$

(d) 7

6 The intersection point of the ascending and descending cumulative curves determines the $\dots\dots\dots$ on the set axis.

(a) order of the median

(b) median

(c) mean

(d) mode

2 Complete the following :

1 $\sqrt[3]{250} + 2\sqrt[3]{2} = \dots\dots\dots$

2 The slope of the straight line passing through (2 , 3) and (4 , - 9) is $\dots\dots\dots$

3 If the lower boundary of a set is 8 and the upper boundary is 12 , then the centre of this set is $\dots\dots\dots$

4 The square whose side length is $\sqrt{7}$ cm. its area is $\dots\dots\dots$ cm^2

5 If the mode of the values : 4 , 5 , 6 , $X + 3$ is 5 , then $X = \dots\dots\dots$

6 If the ordered pair (a , 3 a) satisfies the relation : $X + y = 12$, then a = $\dots\dots\dots$

3 [a] If $X =]-\infty , 3]$ and $Y =]-1 , \infty[$ find using the number line :

1 $X \cap Y$

2 $X - Y$

[b] Find in its simplest form : $\sqrt{18} + \sqrt{50} - 2\sqrt{8}$

4 [a] Find in \mathbb{R} the S.S. of the inequality : $-8 < 3X + 1 \leq 4$

[b] A right circular cylinder whose base radius length is 5 cm. and its height is 7 cm. Find its volume. ($\pi = \frac{22}{7}$)

5 [a] Graph the straight line that represents the relation : $X + y = 5$

[b] Find the arithmetic mean of the following distribution :

The sets	1 -	3 -	5 -	7 -	9 -	Total
Frequency	4	6	8	7	5	30

4

Giza Governorate



El-Dokky Directorate
Maths Inspection

Answer the following questions :

1 Complete :

1 The mean of : 8 , 7 , 7 , 2 is $\dots\dots\dots$

2 $\sqrt{\dots\dots\dots} = 7$

- 3 The slope of horizontal line is
- 4 If $(2, k)$ satisfies the relation : $X + y = 7$, then $k =$
- 5 $\sqrt[3]{125} =$
- 6 The volume of the sphere whose radius length is 14 cm. , $\pi = \frac{22}{7}$ is

2 Choose the correct answer :

- 1 The S.S. in \mathbb{R} of the equation : $X^2 + 9 = 0$ is
 (a) $\{9\}$ (b) $\{3, -3\}$ (c) $\{-9\}$ (d) \emptyset
- 2 The median of the values : 23 , 3 , 4 , 20 and 10 is
 (a) 23 (b) 9 (c) 4 (d) 10
- 3 $[3, 5] - \{3, 5\} =$
 (a) $[3, 5[$ (b) $]3, 5]$ (c) $]3, 5[$ (d) $[3, 5]$
- 4 If the mode of : 9 , X , 10 is 10 , then $X =$
 (a) 10 (b) 0 (c) 9 (d) 6
- 5 The additive inverse of $-\sqrt{3}$ is
 (a) 1 (b) 3 (c) $\sqrt{3}$ (d) $\frac{1}{\sqrt{3}}$
- 6 If the face area of a cube is 36 cm^2 , then its volume is cm^3 .
 (a) 6 (b) 36 (c) 216 (d) 600

3 [a] Simplify to the simplest form : $\sqrt{50} + 2\sqrt{18}$

[b] Find in \mathbb{R} the S.S. of the inequality : $1 \leq 2X - 1 \leq 7$

- 4 [a] If $a = \sqrt{5} + 2$ and $b = \frac{1}{\sqrt{5} + 2}$
 , prove that : a and b are conjugate , then find : $a + b$
- [b] If $X = [-2, 1]$, $Y =]-1, 5[$
 , then find by using the number line : $X \cup Y$

5 [a] Find the slope of \overleftrightarrow{AB} where A (2 , 4) and B (-1 , 3)

[b] Using the following distribution , find the arithmetic mean :

Sets	10 –	20 –	30 –	40 –	50 –	Total
Frequency	8	2	5	4	1	20

5

Alexandria Governorate

El-Montaza Educational Zone
Math's Supervision*Answer the following questions :***1 Choose the correct answer :**

- 1** The mode of the values : 5 , 6 , 7 , 7 is
- (a) 1 (b) 6 (c) 5 (d) 7
- 2** If $\sqrt[3]{X} = 4$, then $X =$
- (a) 4 (b) 16 (c) 64 (d) 12
- 3** A cube with edge length 6 cm. , then its total area is cm^2
- (a) 144 (b) 36 (c) $6\sqrt{6}$ (d) 216
- 4** $[2, 5] - \{5\} =$
- (a) $[2, 5[$ (b) \emptyset (c) $]2, 5[$ (d) $\{2\}$
- 5** The slope of the straight line passing through (2 , 4) and (4 , 6) is
- (a) -1 (b) 1 (c) 7 (d) zero
- 6** The greatest integer number non-positive is
- (a) 1 (b) -1 (c) zero (d) $-\infty$

2 Complete :

- 1** The centre of a set is 10 and its upper limit is 12 , then its lower limit is
- 2** If $X = \sqrt{5} + 2$, $y = \sqrt{5} - 2$, then $(X + y)^2 =$
- 3** If (a , 3 a) satisfies the relation : $2X + y = 15$, then a =
- 4** The median of the values : 17 , 14 , 19 , 4 and 10 is
- 5** The dimensions of a cuboid are $\sqrt{5}$ cm. , $\sqrt{2}$ cm. and $\sqrt{10}$ cm. , then its volume = cm^3
- 6** The slope of any straight line parallel to X-axis is

- 3 [a]** A right circular cylinder of base radius length 5 cm. and its height is 10 cm. Find its volume in terms of π

[b] If $X =]-3, 4]$, $Y =]-5, 1]$, find by using the number line :

1 $X \cap Y$

2 $X \cup Y$

- 4 [a]** Find three ordered pairs satisfying the relation :

$y + X = 2$ and represent it graphically in \mathbb{R} .

[b] Find in \mathbb{R} the S.S. of the inequality : $2X - 2 < 6$ and represent it on the number line.

5 [a] Simplify : $\sqrt[3]{16} + \sqrt{32} - 2\sqrt[3]{2} - 2\sqrt{2}$

[b] Find the arithmetic mean of the following frequency distribution :

Sets	2 -	4 -	6 -	8 -	10 -	Total
Frequency	2	1	3	3	1	10

6

El-Kalyoubia Governorate



Math's Supervision
Official Language Schools

Answer the following questions :

1 Choose the correct answer :

1 $\sqrt[3]{(-8)^2} = \dots\dots\dots$

(a) -4

(b) -2

(c) 2

(d) 4

2 The multiplicative inverse of the number $(\sqrt{3} - \sqrt{2})$ is $\dots\dots\dots$

(a) 1

(b) $\sqrt{3} + \sqrt{2}$ (c) $\sqrt{2} - \sqrt{3}$ (d) $\frac{1}{\sqrt{3} + \sqrt{2}}$

3 The median of the values : 7 , 3 , 8 is $\dots\dots\dots$

(a) 3

(b) 6

(c) 7

(d) 8

4 If the circumference of a circle is 8π cm. , then its radius length is $\dots\dots\dots$ cm.

(a) 2

(b) 4

(c) 7

(d) 8

5 If $X = [-1, \infty[$, then $\bar{X} = \dots\dots\dots$

(a) $]-\infty, -1[$ (b) $]-\infty, -1]$ (c) $]-\infty, 1]$ (d) $]-\infty, 1[$

6 The slope of the straight line parallel to X-axis is $\dots\dots\dots$

(a) 0

(b) 1

(c) -1

(d) undefined.

2 Complete each of the following :

1 $\mathbb{Q} \cup \tilde{\mathbb{Q}} = \dots\dots\dots$

2 If the mode of the values : 3 , 5 , 1 , 3 , 5 , 2 a - 3 is 5 , then a = $\dots\dots\dots$

3 If (k , 2 k) satisfies the relation : $X + y = 15$, then k = $\dots\dots\dots$

4 If the volume of a cube = 27 cm^3 , then the area of one face = $\dots\dots\dots \text{ cm}^2$

5 If the lower limit of a set is 4 and its centre is 9 , then its upper limit is $\dots\dots\dots$

6 The relation : $6X + 4y = 12$ is represented by a straight line intersecting y-axis at the point $\dots\dots\dots$

- 3 [a] If $X = [-1, 4]$ and $Y = [3, \infty[$, then find :

1 $X \cap Y$

2 $X - Y$

- [b] Find in \mathbb{R} the solution set of the inequality :

$-2 < 3x + 7 \leq 10$ and represent it on the number line.

- 4 [a] Find in the simplest form the value of the expression : $\sqrt{18} + \sqrt{50} - 4\sqrt{\frac{1}{2}}$

- [b] If the volume of a right circular cylinder is 924 cm^3 and its height is 6 cm, find its lateral area. $(\pi = \frac{22}{7})$

- 5 [a] Prove that the points A (-2, 12), B (2, 4) and C (6, -4) are collinear.

(on the same straight line)

- [b] Find the mean of the following frequency table :

The sets	5 -	15 -	25 -	35 -	45 -	Total
The frequency	3	10	12	10	5	40

7

El-Sharkia Governorate



Math Inspection

Answer the following questions :

- 1 Choose the correct answer :

- 1 The simplest form of $(\sqrt{3} - \sqrt{2})(\sqrt{3} + \sqrt{2})$ is

(a) $\sqrt{3}$

(b) $\sqrt{2}$

(c) 1

(d) $\sqrt{22}$

- 2 If $-2x < 6$, then x

(a) < 6

(b) > -3

(c) > 6

(d) > -6

- 3 If $(m, 2)$ satisfies the relation : $x + 2y = 7$, then $m =$

(a) -4

(b) -3

(c) 3

(d) 4

- 4 The arithmetic mean of the values : 7, 4, 9, 10, 11, 16, 13 is

(a) 13

(b) 11

(c) 10

(d) 9

- 5 $]-1, 3] \cup \{0, -1\} =$

(a) $]0, 3]$

(b) $]-1, 3[$

(c) $[-1, 3]$

(d) $[0, 3]$

- 6 The slope of the straight line passing through (4, 1) and (6, -3) is

(a) -1

(b) 0

(c) 2

(d) -2

- 2 Complete each of the following :

- 1 The volume of the sphere whose radius length equals 14 cm is

- 2 The S.S. of : $x^2 + 9 = 0$ in \mathbb{R} is
- 3 The lower boundary of a set is 4 and the upper boundary is 8 , then its centre is
- 4 If the mode of the values : 12 , 7 , $x + 1$, 7 , 12 is 7 , then $x =$
- 5 $\sqrt[3]{x^6} = \sqrt{\dots\dots\dots}$
- 6 The slope of any line parallel to x -axis is
-
- 3 [a] If $X = [2, 8]$, $Y =]-3, 4[$, find each of the following using the number line :
- 1 $X \cap Y$ 2 $X \cup Y$
- [b] A right circular cylinder whose volume is 704 cm^3 and its base diameter length is 8 cm. Find its height. ($\pi = \frac{22}{7}$)
-
- 4 [a] Find in \mathbb{R} the S.S. of the inequality : $-1 < 2x + 3 < 5$ and represent the S.S. on the number line.
- [b] Graph the relation : $y = 2 - x$ and find the slope.
-
- 5 [a] If $x = \sqrt{5} - \sqrt{2}$, $y = \frac{3}{\sqrt{5} - \sqrt{2}}$, prove that : x and y are two conjugate numbers.
- [b] Find the arithmetic mean of the following frequency distribution :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	7	10	12	13	8	50

8

El-Dakahlia Governorate



Math's Supervision

Answer the following questions :

- 1 Choose the correct answer from those given :
- 1 $\sqrt{5} \dots\dots\dots \{2, 5\}$
- (a) \in (b) \notin (c) \subset (d) \supset
- 2 The ordered pair satisfying the relation : $x + y = 5$ is
- (a) $(-1, 4)$ (b) $(-4, 1)$ (c) $(2, -3)$ (d) $(2, 3)$
- 3 $\sqrt{25 + 144} = 5 + \dots\dots\dots$
- (a) 12 (b) 13 (c) 8 (d) 6
- 4 The volume of the cube whose edge length is 4 cm. equals cm^3
- (a) 8 (b) 16 (c) 64 (d) 96

- 5 The multiplicative inverse of $\frac{\sqrt{3}}{3}$ is
 (a) $-\sqrt{3}$ (b) $\sqrt{3}$ (c) 1 (d) $\frac{\sqrt{3}}{9}$
- 6 The intersection point of the ascending and descending cumulative curves determines the on the sets axis.
 (a) order of median (b) median
 (c) mean (d) mode

2 Complete each of the following :

- 1 $[4, 9] -]4, 9[= \dots\dots\dots$
- 2 The slope of the straight line passing through $(-1, 5)$, $(2, -4)$ is
- 3 If the lower boundary of a set is 15 and its upper boundary is 25, then its centre is
- 4 The area of a square is 7 cm^2 , then its side length is cm.
- 5 If the mode of the values : 4, 5, 6, 2 x is 4, then $x = \dots\dots\dots$
- 6 If $(k, 1)$ satisfies the relation : $2x + 3y = 1$, then $k = \dots\dots\dots$

3 [a] If $x = \frac{4}{\sqrt{7}-\sqrt{3}}$, $y = \sqrt{7}-\sqrt{3}$

- 1 Put x in the simplest form. 2 Find the value of $x + y$
 3 Find the value of xy

- [b] A right circular cylinder, the length of its base radius is 7 cm., its height is 10 cm. Find its volume.

- 4 [a] Find the S.S. of the inequality : $-2 < x + 3 < 5$ in \mathbb{R} , then represent the interval of solution on the number line.

- [b] Find three ordered pairs satisfying the relation : $y = x + 4$, then represent it graphically in \mathbb{R} .

5 [a] Simplify to the simplest form : $\sqrt{125} + \sqrt{80} - 2\sqrt{20}$

- [b] Find the arithmetic mean of the following frequency distribution :

Sets	5 –	15 –	25 –	35 –	45 –	Total
Frequency	2	1	3	3	1	10



Answer the following questions :

1 Choose the correct answer :

- 1 $5x + 3x = \dots\dots\dots$
 (a) $8x^2$ (b) $8x$ (c) $15x$ (d) $15x^2$
- 2 If the mode of : 6 , 8 , 9 , $k + 1$, 4 is 8 , then $k = \dots\dots\dots$
 (a) 7 (b) 8 (c) 6 (d) 9
- 3 If (2 , a) satisfies the relation : $y = 3x - 1$, then $a = \dots\dots\dots$
 (a) 6 (b) 7 (c) 5 (d) 4
- 4 The slope of x -axis is $\dots\dots\dots$
 (a) 1 (b) -1 (c) undefined. (d) 0
- 5 The median of : 6 , 5 , 9 , 2 , 4 , 10 , 7 is $\dots\dots\dots$
 (a) 9 (b) 4 (c) 6 (d) 2
- 6 The multiplicative inverse of $\frac{\sqrt{6}}{3}$ is $\dots\dots\dots$
 (a) $\sqrt{3}$ (b) $2\sqrt{3}$ (c) $\frac{\sqrt{6}}{2}$ (d) $\frac{\sqrt{3}}{3}$

2 Complete :

- 1 The mean of : 7 , 18 , 5 , 15 , 25 is $\dots\dots\dots$
- 2 The additive inverse of $\frac{3}{4}$ is $\dots\dots\dots$
- 3 The volume of a cube is 27 cm^3 , then the area of one face is $\dots\dots\dots \text{ cm}^2$
- 4 If $-x > 4$, then $x < \dots\dots\dots$
- 5 If $\sqrt[3]{x} = 6$, then $x = \dots\dots\dots$
- 6 In the relation : $y = 2x + 3$, if $x = 4$, then $y = \dots\dots\dots$

3 [a] Find in \mathbb{R} the S.S. and represent it on the number line : $5 \leq 2x + 1 \leq 9$

- [b] The volume of a cylinder is 1540 cm^3 and its height is 10 cm.
Find its radius length. $\left(\pi = \frac{22}{7}\right)$

4 [a] If C (2 , 4) and D (5 , 7) , find the slope of \overleftrightarrow{CD}

- [b] If $X = [-2 , 6]$, $Y = [-4 , 3]$, using the number line find :

- 1 $X \cap Y$ 2 $X \cup Y$ 3 $X - Y$

5 [a] Simplify : $\sqrt{50} + \sqrt{32} - 3\sqrt{2}$

[b] Find the mean of the following table :

Sets	6 -	8 -	10 -	12 -	14 -	Total
Frequency	5	6	4	2	3	20

10

Damietta Governorate



New Damietta Educ. Zone
El-Kafrawy Lang. School

Answer the following questions :

1 Choose the correct answer from those given :

[1] If $5x = 35$, $xy = 1$, then $y = \dots\dots\dots$

(a) $\frac{1}{35}$ (b) 35 (c) $\frac{1}{7}$ (d) 7

[2] The median of : 24 , 20 , 11 , 36 , 40 is $\dots\dots\dots$

(a) 11 (b) 20 (c) 24 (d) 36

[3] $\{8, 9, 10\} \cup]8, 10[= \dots\dots\dots$

(a) \emptyset (b) $[8, 10]$ (c) $\{9\}$ (d) \mathbb{N}

[4] If $(-1, 2)$ satisfies the relation : $3x + ky = 7$, then $k = \dots\dots\dots$

(a) 5 (b) 3 (c) -2 (d) -1

[5] $\frac{\sqrt{25-9}}{\sqrt{25}-\sqrt{9}} = \dots\dots\dots$

(a) 1 (b) -2 (c) 4 (d) 2

[6] The solution set of the equation : $x(x^2 - 1) = 0$ in \mathbb{R} is $\dots\dots\dots$

(a) $\{0\}$ (b) $\{1\}$ (c) $\{-1\}$ (d) $\{0, 1, -1\}$

2 Complete the following :

[1] The slope of any line parallel to x -axis is $\dots\dots\dots$

[2] The volume of a cube is 64 cm^3 , then its edge length is $\dots\dots\dots$

[3] If the lower limit of a set is 40 and the upper limit is 80, then its centre is $\dots\dots\dots$

[4] If $\sqrt{x} = \sqrt{2} + 1$, then $x^2 = \dots\dots\dots$

[5] If the mode of the set of the values : 15 , 9 , $x+1$, 9 , 15 is 9, then $x = \dots\dots\dots$

[6] $3a^2b \times 4a^2b^3 = \dots\dots\dots$

3 [a] If $x = \sqrt{3} - \sqrt{2}$ and $y = \frac{1}{\sqrt{3} - \sqrt{2}}$, find the value of : $x + y$

[b] Find the slope of \overleftrightarrow{AB} where $A(-1, 3)$ and $B(2, 5)$ Is the point $C(8, 1) \in \overleftrightarrow{AB}$?

4 [a] Find in the simplest form : $4\sqrt{3} + 2\sqrt{48} + \frac{2}{5}\sqrt{75}$

[b] Find the S.S. of the inequality : $-1 < 2x - 3 \leq 5$ in \mathbb{R}
and represent the interval of solution on the number line.

5 [a] Find the arithmetic mean of the following frequency distribution :

Sets	10 –	30 –	50 –	70 –	90 –	Total
Frequency	4	6	8	7	5	30

[b] Find the volume of the cuboid of dimensions 5 cm. , 3 cm. 2 cm.

11 Beni Suf Governorate



Directorate of Official Language School
Education Administration

Answer the following questions :

1 Choose the correct answer from those given :

[1] The irrational number in the following numbers is

(a) $\sqrt{\frac{25}{9}}$

(b) $\sqrt[3]{\frac{1}{27}}$

(c) $\sqrt{3}$

(d) $\sqrt[3]{125}$

[2] $\mathbb{R} - \mathbb{Q} = \dots\dots\dots$

(a) \mathbb{R}

(b) \mathbb{Q}

(c) $\{0\}$

(d) \emptyset

[3] The solution set of the inequality : $-2 < 3x + 7 \leq 10$ in \mathbb{R} is

(a) $[-3, 1[$

(b) $]-3, 1]$

(c) $]1, 3]$

(d) $[-3, 1]$

[4] The slope of any straight line parallel to X-axis is

(a) zero.

(b) positive.

(c) negative.

(d) undefined.

[5] If the mode of the set of values : 4 , 11 , 8 , 2 X is 4 , then X =

(a) 1

(b) 2

(c) 4

(d) 8

[6] $\sqrt{64 + 36} = \dots\dots\dots$

(a) 6

(b) 8

(c) 10

(d) 14

2 Complete each of the following :

[1] The slope of the straight line passing through the two points (2 , 3) and (0 , 1) is

[2] If A , B and C are collinear points , then the slope of \overrightarrow{BC} = the slope of

[3] The median of the values : 3 , 7 , 2 , 9 , 5 and 11 is

[4] The point of intersection of the ascending and descending cumulative frequency curves determines on the set-axis.

- 5 If $2X + 3 = 9$, $X \in \mathbb{Z}$, then $X = \dots\dots\dots$
- 6 The mode of the values : 7 , 4 , 7 , 4 , 7 is $\dots\dots\dots$

- 3 [a] If $X =]-4, 3[$, $Y =]-\infty, 1[$ and $Z = \{1, -4\}$, find each of the following using the number line :

1 $Y - X$

2 $Y \cap Z$

- [b] Simplify to the simplest form : $\sqrt{18} + \sqrt[3]{54} - 3\sqrt{2} - \frac{1}{2}\sqrt[3]{16}$

- 4 [a] If $X = \frac{4}{\sqrt{7} - \sqrt{3}}$ and $y = \sqrt{7} - \sqrt{3}$, prove that : X and y are conjugate numbers , then find the value of : $(X + y)^2$ in its simplest form.

- [b] Which is more in volume :

A sphere whose radius length is 10 cm. or a cube whose edge length is equal to 11 cm. ? ($\pi = 3.14$)

- 5 [a] Find the value of k , where $(k, 2k)$ satisfies the relation : $X + y = 15$

- [b] The following table shows the frequency distribution of the weights of 30 children in kg. :

Weight (kg.)	6 –	10 –	14 –	18 –	X –	26 –	30 –	Total
Frequency	2	3	m	8	6	4	2	30

Find : 1 The value of each of X and m

2 The arithmetic mean of this distribution.

12 Luxor Governorate



Directorate of Education
Math's Supervision

Answer the following questions :

- 1 Choose the correct answer :

- 1 If the point $(a, 1)$ satisfies the relation : $X + y = 5$, then $a = \dots\dots\dots$

(a) 1 (b) -4 (c) 4 (d) 5

- 2 The solution set of the equation : $X^2 + 4 = 0$ in \mathbb{R} is $\dots\dots\dots$

(a) $\{2, -2\}$ (b) $\{2\}$ (c) $\{-2\}$ (d) \emptyset

- 3 The degree of the algebraic term : $3^2 X^2 y^2$ is $\dots\dots\dots$

(a) 2 (b) 4 (c) 6 (d) 8

- 4 The intersection point of the ascending and descending cumulative curves determines the $\dots\dots\dots$ on the sets axis.

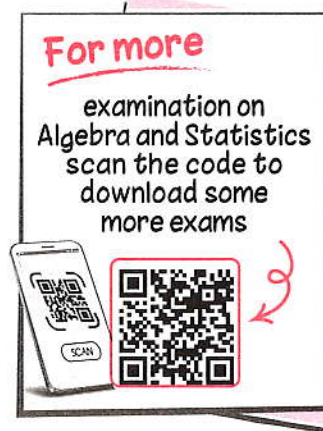
(a) order of median (b) mode (c) mean (d) median

- 5 The slope of X -axis is
 (a) 0 (b) undefined. (c) 1 (d) -1

- 6 If $3a = 24$, then half of $a =$
 (a) 8 (b) 12 (c) 24 (d) 4

2 Complete :

- 1 $(\sqrt{2} + 1)(\sqrt{2} - 1) =$
 2 The volume of a cube is 8 cm^3 , then its edge length is
 3 The median of : 34 , 32 , 33 , 35 , 36 is
 4 The mode of : 4 , 11 , 8 , 4 is
 5 $\sqrt{100 - 64} = 10 -$
 6 If $A(1, 3)$, $B(2, 6)$, then the slope of $\overleftrightarrow{AB} =$



3 [a] If $X = [-1, 4]$ and $Y = [3, 5]$, using the number line find each of the following :

- 1 $X \cap Y$ 2 $X \cup Y$

[b] Simplify : $\sqrt{128} + \sqrt{8} - 2\sqrt{50}$

4 [a] If $x = \sqrt{5} - \sqrt{2}$, $y = \sqrt{5} + \sqrt{2}$, find the value of :

- 1 $x + y$ 2 xy

[b] Find the solution set of the following inequality in \mathbb{R} , then represent it on the number line : $3x + 7 \leq 10$

5 [a] If $(2k, k)$ satisfies the relation : $x + y = 30$, find : the value of k

[b] The following table shows the distribution of the marks of 50 pupils in mathematics :

Sets	10 –	20 –	30 –	40 –	50 –	Total
Frequency	8	12	14	9	7	50

Sets	Centre of the set X	Frequency f	$X \times f$
Total			

The mean =

حمل الآن

مجاناً وحصرياً

امتحانات رقم (3)

الترم الاول



1

Cairo Governorate



Shoubra Educational Zone
St. Catherine Language School

Answer the following questions :

1 Choose the correct answer :

- 1 The multiplicative inverse of $\sqrt{3}$ is
 (a) $\sqrt{3}$ (b) $-\sqrt{3}$ (c) $\frac{\sqrt{3}}{3}$ (d) $\frac{3}{\sqrt{3}}$
- 2 The S.S. of the equation : $x^2 + 9 = 0$ in \mathbb{R} is
 (a) \emptyset (b) $\{3, -3\}$ (c) $\{3\}$ (d) $\{-3\}$
- 3 If $(k, 3)$ satisfies the relation : $y = 2x + 5$, then $k =$
 (a) 1 (b) -1 (c) 2 (d) 3
- 4 The volume of a cube is 27 cm^3 , then its lateral area = cm^2
 (a) 12 (b) 54 (c) 36 (d) 27
- 5 If $2x + 1 = 7$, then $3x =$
 (a) 6 (b) 9 (c) 12 (d) -12
- 6 The mean of the values : 3, 2, 4, 7 is
 (a) 2 (b) 3 (c) 7 (d) 4

2 Complete :

- 1 $3a^2b \times \dots = 12a^4b^2$
- 2 If the mode of the values : 6, 9, $x - 2$, 10 is 6, then $x =$
- 3 $[2, 7] - \{7\} =$
- 4 The slope of the straight line parallel to x -axis is
- 5 The median of : 24, 20, 11, 36, 40 is

3 [a] If $x = \sqrt{3} + \sqrt{2}$, $y = \frac{1}{\sqrt{3} + \sqrt{2}}$, find the value of : $\frac{x+y}{xy}$

[b] If the slope of the straight line passing through the two points A (4, k), B (3, 2) is 5, find the value of k

4 [a] Find in \mathbb{R} the S.S. of the inequality :

$-1 \leq 2x + 3 < 5$ and represent the S.S. on the number line.

[b] Simplify : $\sqrt{50} + 2\sqrt{18} - \sqrt{32} - 8\sqrt{\frac{1}{2}}$

- 5 [a] If the volume of a sphere is $\frac{500}{3} \pi \text{ cm}^3$, find the length of its diameter.

[b] Find the mean of the following frequency distribution :

Sets	5 –	15 –	25 –	35 –	45 –	Total
Frequency	4	5	6	3	2	20

2

Cairo Governorate



East Nasr City Educational Zone
Alson Lang, School

Answer the following questions :

1 Choose the correct answer :

1 $(\sqrt{5} + \sqrt{3})^2 (\sqrt{5} - \sqrt{3})^2 = \dots\dots\dots$

- (a) 2 (b) 3 (c) 4 (d) 8

2 The lower limit of a set is 4 and the upper limit is 8 , then its centre is

- (a) 8 (b) 6 (c) 4 (d) 2

3 $5 \in \dots\dots\dots$

- (a) $\{55\}$ (b) $]1, 5[$ (c) $]-\infty, 4]$ (d) $]-1, \infty[$

4 The mode of the values : 4 , 11 , 8 , 2 \mathcal{X} is 8 , then $\mathcal{X} = \dots\dots\dots$

- (a) 2 (b) 4 (c) 9 (d) 11

5 If the volume of a cube is 27 cm^3 , then the perimeter of one of its faces is cm.

- (a) 12 (b) 9 (c) 15 (d) 40

6 If $(-1, 5)$ satisfies the equation : $3\mathcal{X} + k y = 7$, then $k = \dots\dots\dots$

- (a) 2 (b) 0.8 (c) 3 (d) 5

2 Complete :

1 If the volume of a sphere is $\frac{9}{2} \pi \text{ cm}^3$, then its radius length is

2 $(2\mathcal{X} - 3)(3\mathcal{X} + 5) = 6\mathcal{X}^2 + \dots\dots\dots$

3 $[3, 4] - \{3, 5\} = \dots\dots\dots$

4 If $A(1, -2)$, $B(5, -4)$, then the slope of \overrightarrow{AB} is

5 The mean of the values : 7 , 11 , 21 , 10 and 16 is

3 [a] Simplify to the simplest form :

1 $6\sqrt[3]{16} + \sqrt[3]{54} - 6\sqrt[3]{\frac{1}{4}}$

2 $5\sqrt{2}(2\sqrt{2} + \sqrt{12})$

[b] If $\mathcal{X} = \frac{4}{\sqrt{7} - \sqrt{3}}$, $y = \sqrt{7} - \sqrt{3}$

, prove that : \mathcal{X} and y are conjugate numbers , then find the value of : $(\mathcal{X} + y)^2$

- 4 [a] Find the total area of a right circular cylinder of volume $72\pi \text{ cm}^3$ and height 8 cm. (in terms of π)

[b] Find in \mathbb{R} the S.S. of :

1 $5 - 3x > 11$, then represent the solution set on the number line.

2 $8x^3 + 7 = 8$

- 5 [a] Graph the relation : $y = 3x + 1$ and if (2 , a) satisfies the relation , find the value of a

[b] Find the arithmetic mean of the following frequency distribution :

Sets	10 –	20 –	30 –	40 –	50 –	Total
Frequency	4	6	8	7	5	30

3 Cairo Governorate



Helwan Educational Zone
Saint Mary Lang. School

Answer the following questions :

1 Choose the correct answer :

- 1 The slope of the straight line passing through (4 , 1) , (6 , -3) is

(a) -1 (b) 0 (c) 2 (d) -2

- 2 The solution set of : $2x^3 + 54 = 0$ in \mathbb{R} is

(a) {3} (b) {-3} (c) {-3 , 3} (d) \emptyset

- 3 If (6 k , 4 k) satisfies the relation : $x + y = 50$, then k =

(a) 0 (b) 10 (c) 15 (d) 5

- 4 If the order of the median of some values is tenth , then the number of these values is

(a) 19 (b) 20 (c) 21 (d) 22

- 5 If $2x = 14$, then $6x =$

(a) 12 (b) 28 (c) 36 (d) 42

- 6 $]-1 , 3] \cup \{0 , -1\} =$

(a) $]0 , 3]$ (b) $]-1 , 3[$ (c) $[-1 , 3]$ (d) $[0 , 3]$

2 Complete each of the following :

- 1 The volume of the sphere whose radius length equals 14 cm. is ($\pi \approx \frac{22}{7}$)

- 2 If the mode of the values : 16 , 18 , $x - 3$, 14 is 16 , then $x =$

- 3 The median of the values : 29 , 24 , 30 , 23 , 18 , 28 is
- 4 If the slope of a straight line equals zero , then the line is parallel to
- 5 If the lower limit of a set is 28 and the upper limit of it is 32 , then the centre of the set equals

3 [a] If $X =]-\infty, 4]$ and $Y =]2, \infty[$, find using the number line :

- 1 $X \cap Y$ 2 $X \cup Y$ 3 \bar{X}

[b] A right circular cylinder whose volume is 704 cm^3 and its diameter length is 8 cm. , then find its height. $(\pi \approx \frac{22}{7})$

4 [a] Find the solution set in \mathbb{R} of the inequality :
 $-4 \leq 5x + 1 < 11$ and represent it on the number line.

[b] Simplify : $\sqrt[3]{54} + \sqrt[3]{50} + \sqrt[3]{16} + \sqrt[3]{8}$

5 [a] Graph the relation : $y = 2x + 2$

[b] Find the arithmetic mean of the following data :

Sets	20 –	22 –	24 –	26 –	Total
Frequency	16	12	14	8	50

4

Giza Governorate



El-Dokki Zone
Math. Inspection

Answer the following questions :

1 Choose the correct answer :

- 1 $2\sqrt{x} \times 3\sqrt{x} = \dots\dots\dots$ (where $x > 0$)
 (a) $6x^2$ (b) $6x$ (c) $5x^2$ (d) $5x$
- 2 If $(m, 2)$ satisfies the relation : $x + 2y = 7$, then $m = \dots\dots\dots$
 (a) -4 (b) -3 (c) 3 (d) 4
- 3 $(\sqrt{5} - 2) + (\sqrt{5} + 2) = \dots\dots\dots$
 (a) 1 (b) 2 (c) 4 (d) $2\sqrt{5}$
- 4 The volume of a cube is 27 cm^3 , then the area of one of its faces is cm^2
 (a) 3 (b) 6 (c) 9 (d) 12
- 5 If $a = \frac{2}{\sqrt{3}-1}$, $b = \sqrt{3}-1$, then $2ab = \dots\dots\dots$
 (a) 1 (b) 2 (c) 3 (d) 4
- 6 The arithmetic mean of the values : 7 , 4 , 9 , 10 , 11 , 16 , 13 is
 (a) 13 (b) 11 (c) 10 (d) 9

2 Complete the following :

- 1 Let A (1 , 3) , B (2 , 5) , then the slope of \overleftrightarrow{AB} equals
- 2 The S.S. of the equation : $(X + 3)(X - 1) = 0$ in \mathbb{R} is
- 3 The median of the values : 6 , 7 , 9 , 10 , 8 , 5 , 4 is
- 4 The mode of the values : 5 , 6 , 7 , 6 , 9 , 5 , 7 , 5 , 9 , 4 , 6 , 9 , 5 is
- 5 $[1 , 5] - \{1 , 5\} = \dots\dots\dots$

3 [a] If $X = [2 , 8]$, $Y =]-3 , 4[$, find each of the following using the number line :

- 1 $X \cap Y$
- 2 $X \cup Y$

[b] Find the S.S. of the inequality : $5X + 1 \geq 21$ in \mathbb{R} and represent the solution set on the number line.

4 [a] Find the value of : $\sqrt{20} + \sqrt{45} - \sqrt{80}$ (showing the steps of your answer)

[b] Find the volume of a right circular cylinder of height 10 cm. and its radius length is 7 cm.

5 [a] Represent graphically the relation : $y = 3 - X$

[b] Find the arithmetic mean of the following frequency distribution :

The set	0 –	10 –	20 –	30 –	40 –	Total
Frequency	4	5	6	3	2	20

5

Giza Governorate



6th October Directorate

Answer the following questions :

1 Choose the correct answer :

- 1 The S.S. of the equation : $X^2 + 5 = 0$ in \mathbb{R} is
 (a) 5 (b) $\{\sqrt{5} , -\sqrt{5}\}$ (c) $\{\sqrt{5}\}$ (d) \emptyset
- 2 If the point (a , 1) satisfies the relation : $X + y = 5$, then a =
 (a) -4 (b) 1 (c) 4 (d) 5
- 3 If four times a number is 48 , then third of this number is
 (a) 12 (b) 6 (c) 4 (d) 8
- 4 $[-1 , 5] -]-1 , 5[= \dots\dots\dots$
 (a) \emptyset (b) $\{-1 , 5\}$ (c) $[-1 , 5]$ (d) $]-1 , 5[$

- 5 The irrational number between 3 and 4 is
 (a) $\sqrt{17}$ (b) $\sqrt{6}$ (c) $\sqrt[3]{29}$ (d) 3.6
- 6 A cube the sum of its edge lengths is 48 cm. , then its volume is cm^3
 (a) 64 (b) 6 (c) 4 (d) 46

2 Complete :

- 1 If the lower limit of a set is 4 and its centre is 6 , then its upper limit is
- 2 If $\frac{1}{x} = \sqrt{5} - 2$, then $x = \dots\dots\dots$ (in its simplest form)
- 3 A sphere its diameter length is 6 cm. , then its volume is cm^3
- 4 If A (-1 , 4) , B (x , 2) and the slope of $\overrightarrow{AB} = -2$, then $x = \dots\dots\dots$
- 5 The S.S. of : $\sqrt{5} x \leq 5$ is in \mathbb{R}

- 3 [a] A right circular cylinder , its radius length equals its height and its volume is $216 \pi \text{ cm}^3$
 Find the height of the right cylinder.

[b] Find the S.S. in \mathbb{R} :

- 1 $5 > 2x - 3 > -1$ (represent it on the number line)
- 2 $(2x - 1)^3 = 125$

- 4 [a] If $X =]-\infty , 1]$ and $Y = [-2 , 4[$, find :

- 1 $X \cap Y$ 2 $Y - X$ 3 \bar{X}

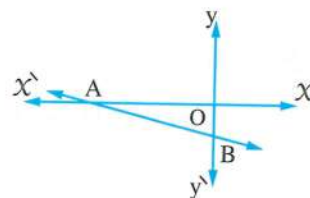
- [b] Simplify : $5\sqrt{8} + 2\sqrt[3]{2} - 2\sqrt{50} - \sqrt[3]{16}$

- [c] If $x = \sqrt{7} + \sqrt{4}$, $y = \frac{3}{x}$

- 1 Prove that : x and y are two conjugate numbers.
- 2 Find : $x^2 + 2xy + y^2$

- 5 [a] If the relation : $x + 4y = -4$ is represented in the opposite figure where A is the intersection point with x -axis and B is the intersection point with y -axis , then find :

- 1 The coordinates of A and B
- 2 The area of $\triangle ABO$ where O is the origin point.
- 3 The slope of \overrightarrow{AB}



- [b] From the following frequency distribution :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	7	10	12	13	k	50

- 1 Find k 2 Find the arithmetic mean.



Answer the following questions :

1 Choose the correct answer :

- 1 $\sqrt{4} \dots\dots\dots] - 2, \infty[$
 (a) \in (b) \notin (c) \subset (d) $\not\subset$
- 2 $\sqrt{\frac{x}{y}} = \dots\dots\dots$ (where $y > 0$)
 (a) $\frac{1}{y}\sqrt{x}$ (b) $\frac{1}{x}\sqrt{y}$ (c) $\frac{1}{y}\sqrt{xy}$ (d) $\frac{x}{y}$
- 3 The order of the median of the values : 4 , 5 , 6 , 7 and 8 is the
 (a) third. (b) fourth. (c) fifth. (d) sixth.
- 4 If $x = (-2)^4$, $y = -2^4$, then
 (a) $x = y$ (b) $x > y$ (c) $x < y$ (d) $x \leq y$
- 5 If $(2k, k)$ satisfies the relation : $y + 2x = 5$, then $k = \dots\dots\dots$
 (a) 5 (b) 4 (c) 2 (d) 1
- 6 If the mean of the values : 9 , 5 , 6 , x , 14 is 7 , then $x = \dots\dots\dots$
 (a) 3 (b) 2 (c) 1 (d) 5

2 Complete :

- 1 The additive inverse of the number $-5 + \sqrt{3}$ is
 2 If the mode of the values : 4 , 11 , 8 , $2x$ is 4 , then $x = \dots\dots\dots$
 3 The cube whose volume is 8 cm^3 , then the sum of all edge lengths is cm.
 4 If the lower limit of a set is 4 and the upper limit is 8 , then its centre is
 5 The straight line which represents the relation : $2x + 7y = 14$ intersects x -axis at the point (..... ,)

- 3 [a] If $x = \sqrt{7} - \sqrt{6}$, $y = \frac{1}{x}$, prove that : $(x + y)^2 = 28$
 [b] If $A(3, 4)$, $B(5, a)$ and the slope of $\overrightarrow{AB} = 3$, find the value of a
 [c] Find the lateral area of a right circular cylinder of volume $72\pi \text{ cm}^3$ and height 8 cm.

4 [a] Graph the relation : $y = 2 - x$

[b] Simplify : 1 $\sqrt{32} - 6\sqrt{\frac{1}{2}}$ 2 $\sqrt[3]{128} + \sqrt[3]{16}$

[c] If $X =]-\infty, 2[$ and $Y = [-1, 5]$, find using the number line :

1 $X \cap Y$ 2 $X \cup Y$ 3 \bar{X}

5 [a] Complete : The S.S. of the equation : $x^2 + 1 = 0$ in \mathbb{R} is

[b] Find in \mathbb{R} the S.S. of the inequality :

$5 - 3x > 11$, then represent the S.S. on the number line.

[c] Find the mean of the following data :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20

7 Alexandria Governorate



East Educational Zone
Math's Supervision

Answer the following questions :

1 Choose the correct answer :

1 The mode for the values : 3 , 5 , 3 , 4 , 3 is

- (a) 3 (b) 4 (c) 5 (d) 12

2 Let A (3 , 5) and B (5 , -1) , then the slope of \overleftrightarrow{AB} =

- (a) $-\frac{1}{3}$ (b) -3 (c) 3 (d) $\frac{1}{3}$

3 If the point (a , 1) satisfies the relation : $x + y = 5$, then a =

- (a) 1 (b) -4 (c) 4 (d) 5

4 The solution set of the equation : $x^2 + 9 = 0$ in \mathbb{R} is

- (a) \emptyset (b) $\{-3\}$ (c) $\{3\}$ (d) $\{3, -3\}$

5 $4.274 \approx$ (to the nearest $\frac{1}{10}$)

- (a) 4 (b) 4.2 (c) 4.3 (d) 4.27

6 The lower limit of a set is 4 and the upper limit is 8 , then its centre is

- (a) 2 (b) 4 (c) 6 (d) 8

2 Complete the following :

1 The surface area of a sphere of diameter length 14 cm. equals

2 $(\sqrt{8} + \sqrt{2})(\sqrt{8} - \sqrt{2}) =$

3 The conjugate of the number $\frac{2\sqrt{5} - 3\sqrt{2}}{\sqrt{2}}$ is

4 A cube whose volume is 8 cm^3 , then the sum of lengths of all its edges equals

5 The S.S. of the equation : $x(x^3 - 1) = 0$ in \mathbb{R} is

- 3 [a]** Find in the simplest form : $6\sqrt{\frac{1}{2}} + \frac{1}{3}\sqrt[3]{54} - \sqrt{18} - \sqrt[3]{2}$
- [b]** If $x = \sqrt{5} + \sqrt{2}$ and $y = \sqrt{5} - \sqrt{2}$, find the value of : $\frac{x+y}{xy-1}$
- 4 [a]** Find the S.S. in \mathbb{R} of the inequality : $2x + 1 \leq 7$, then represent it on the number line.
- [b]** Find the volume of the sphere whose diameter length is 4.2 cm. ($\pi = \frac{22}{7}$)
- 5 [a]** If the slope of \overleftrightarrow{AB} is 3 where $A = (3, 4)$, $B = (4, y)$, find the value of y
- [b]** Find the arithmetic mean of the following distribution :

Sets	4 -	8 -	12 -	16 -	20 -	Total
Frequency	2	4	8	6	4	24



Answer the following questions :

1 Choose the correct answer :

- 1** The solution set of the equation : $x + 5 = 5$ in \mathbb{N} is
- (a) $\{0\}$ (b) $\{10\}$ (c) $\{-10\}$ (d) \emptyset
- 2** The rational number that lies between 0.2 , 0.3 is
- (a) 0.21 (b) 0.11 (c) 0.31 (d) 0.33
- 3** $\sqrt[3]{x^6} = \sqrt{\dots\dots\dots}$
- (a) x^3 (b) x^2 (c) x (d) x^4
- 4** If $(2, -5)$ satisfies the relation : $3x - y + c = 0$, then $c = \dots\dots\dots$
- (a) 1 (b) -1 (c) 11 (d) -11
- 5** If the arithmetic mean of the set of values : 18 , 23 , 29 , $2k - 1$, k is 18 , then $k = \dots\dots\dots$
- (a) 1 (b) 7 (c) 29 (d) 19
- 6** The median of the values : 34 , 23 , 25 , 40 , 22 , 4 is
- (a) 22 (b) 23 (c) 24 (d) 25

2 Complete :

- 1** $0.3 = \dots\dots\dots$ (in the form of $\frac{a}{b}$)
- 2** $\sqrt[3]{343} = \dots\dots\dots$
- 3** The slope of any line parallel to x -axis is

- 4 The mode is the common value in the set.
- 5 If the order of the median of some values is the fourth , then the number of the values is
- 3 [a] Find the solution set of : $5x - 3 < 2x + 9$ in \mathbb{R}
- [b] Find the value of : $\sqrt{18} + \sqrt{54} - 3\sqrt{2} - \frac{1}{2}\sqrt{24}$
- 4 [a] The radius length of the base of a right circular cylinder is 4 cm. and its height is 9 cm. Find the volume in terms of π
- [b] If A (2 , -1) , B (10 , 3) and C (2 , 3) , find the slope of each of \overrightarrow{AB} and \overrightarrow{BC}
- 5 [a] Find : $[-1, 4] - [-3, 2[$ by using the number line.
- [b] The following table shows the frequency distribution for the score of 50 students in an examination :

Sets	2 –	6 –	10 –	14 –	18 –	22 –	26 –	Total
Frequency	3	5	9	10	12	7	4	50

Find the mean of the students score.

9

El-Monofia Governorate

Shiben Elkom Directorate
Supervisor of Math

Answer the following questions :

1 Choose the correct answer :

- 1 The degree of the algebraic term $2x^3y^2$ is the
 (a) second. (b) third. (c) fourth. (d) fifth.
- 2 If the radius length of a sphere is 6 cm. , then its volume is cm^3
 (a) 6π (b) 36π (c) 72π (d) 288π
- 3 If x is a negative number , then the number is positive.
 (a) x^2 (b) x^3 (c) $2x$ (d) $\frac{1}{2}x$
- 4 $\sqrt{8} - 2\sqrt{2} = \dots\dots\dots$
 (a) 4 (b) 8 (c) zero (d) 2
- 5 If $|x| = 7$, then $x = \dots\dots\dots$
 (a) 7 (b) -7 (c) ± 7 (d) 8
- 6 The arithmetic mean for five values is 13 , then the sum of these values is
 (a) 70 (b) 56 (c) 65 (d) 13

2 Complete :

- 1** The slope of the straight line parallel to X -axis is
- 2** If the mode of the values : 18 , 11 , 4 , 2 X is 18 , then X =
- 3** If $(k, 2)$ represents the relation : $X + 2y = 5$, then k =
- 4** If the order of the median of some values is the seventh , then the number of these values is
- 5** The median of : $a + 2$, a , $a - 2$, $a - 1$, $a + 1$ is

3 [a] Simplify : $\sqrt{75} - 6\sqrt{\frac{1}{3}} - 3\sqrt{12}$

[b] If $A = [-2, 3]$, $B = [1, \infty[$, find using the number line :

1 $A \cap B$

2 $A \cup B$

[c] The diameter length of a cylinder is 7 cm. and its height is 10 cm. Find the lateral area of the cylinder.

4 [a] Represent the relation : $2X + y = 4$, then find the slope of the straight line representing this relation.

[b] If $X = \frac{1}{\sqrt{7} + \sqrt{6}}$, $y = \sqrt{7} + \sqrt{6}$, **prove that :** X and y are two conjugate numbers , then find : $(X + y)^2$ in the simplest form.

5 [a] Find the S.S. in \mathbb{R} for the inequality :

$\sqrt[3]{-8} \leq X + 1 \leq \sqrt{9}$, then represent it on the number line.

[b] From the following frequency distribution :

The set	10 –	20 –	30 –	40 –	50 –	Total
Frequency	10	20	25	k	15	100

Find : **1** The value of k

2 The arithmetic mean.

10 El-Gharbia Governorate



Central Mathematics Supervision
Official Language Schools

Answer the following questions :

1 Choose the correct answer :

1 The S.S. in \mathbb{R} for the equation : $X^3 + 27 = 0$ is

(a) $\{-3\}$

(b) $\{2\}$

(c) $\{3\}$

(d) \emptyset

- 2 If the mode of the values : 3 , 6 , $X + 1$, 6 , 3 , 1 is 6 , then $X = \dots\dots\dots$
 (a) 1 (b) 2 (c) 5 (d) 0
- 3 The cube whose volume is 64 cm^3 , the length of one of its edges is $\dots\dots\dots$ cm.
 (a) 8 (b) 3 (c) 16 (d) 4
- 4 If $X < \sqrt{51} < X + 1$, $X \in \mathbb{Z}$, then $X = \dots\dots\dots$
 (a) 8 (b) 7 (c) 6 (d) 5
- 5 $\sqrt{7} + \sqrt{7} = \dots\dots\dots$
 (a) $\sqrt{28}$ (b) 7 (c) 14 (d) $\sqrt{14}$
- 6 If the point (a , 1) satisfies the relation $X + y = 5$, then a = $\dots\dots\dots$
 (a) 1 (b) 2 (c) 5 (d) 4

2 Complete :

- 1 $\sqrt[3]{\dots\dots\dots} = -\sqrt{4}$
- 2 If the order of the median of some values is seventh , then the number of these values is $\dots\dots\dots$
- 3 If the lower limit of a set is 8 and the upper limit of the same set is 10 , then the centre of this set is $\dots\dots\dots$
- 4 $[-3, 6] \cap [3, 9] = \dots\dots\dots$
- 5 The slope of X-axis is $\dots\dots\dots$

3 [a] Reduce to the simplest form : $\frac{\sqrt{3}}{\sqrt{5}-\sqrt{3}} + \frac{\sqrt{5}}{\sqrt{5}+\sqrt{3}}$

[b] Prove that : $\sqrt[3]{128} + \sqrt[3]{16} - 2\sqrt[3]{54} = 0$

[c] Find in \mathbb{R} the solution set of the inequality : $-3 < 4X - 7 < 5$

- 4 [a] A right circular cylinder whose height is 10 cm. and its volume is $90\pi \text{ cm}^3$
 Find the length of the radius of its base.

- [b] If $X = [-3, 4]$, $Y =]1, \infty[$, find each of the following using the number line :

1 $X \cap Y$

2 $X \cup Y$

3 $X - Y$

5 [a] Simplify : $\sqrt{50} + \sqrt{18} - \sqrt{32}$

- [b] Find the arithmetic mean of the following frequency distribution :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20



Answer the following questions :

1 Choose the correct answer from those given :

1 $[3, 5] -]3, 5[= \dots\dots\dots$

- (a) \emptyset (b) $[3, 5]$ (c) $]3, 5[$ (d) $\{3, 5\}$

2 If the point $(a, 1)$ satisfies the relation : $x + y = 5$, then $a = \dots\dots\dots$

- (a) -4 (b) 1 (c) 4 (d) 5

3 If the lower limit of a set is 4 and the upper limit is 8 , then its centre is $\dots\dots\dots$

- (a) 2 (b) 4 (c) 6 (d) 8

4 If the radius length of a sphere is 6 cm. , then its volume is $\dots\dots\dots \text{cm}^3$

- (a) 6π (b) 36π (c) 72π (d) 288π

5 $\sqrt{100 - 36} = 10 - \dots\dots\dots$

- (a) -6 (b) 2 (c) 4 (d) 6

6 The intersection point of the ascending and descending cumulative curves determines the $\dots\dots\dots$ on the sets axis.

- (a) order of the median (b) median
(c) mean (d) mode

2 Complete each of the following :

1 $\sqrt{3}, \sqrt{12}, \sqrt{27}, \sqrt{48}, \dots\dots\dots$ (in the same pattern)

2 The slope of any straight line parallel to x -axis is $\dots\dots\dots$

3 If $n \in \mathbb{Z}_+$, $n < \sqrt{26} < n + 1$, then $n = \dots\dots\dots$

4 The arithmetic mean of the set of values : $3 - x, 5 + x, 4$ equals $\dots\dots\dots$

5 If the mode of the values : 4 , 11 , 8 , 2 x is 4 , then $x = \dots\dots\dots$

3 [a] Find the slope of \overleftrightarrow{AB} where $A(-1, 3)$ and $B(2, 5)$, is the point $C(8, 1) \in \overleftrightarrow{AB}$?

[b] If $x = \sqrt{7} + \sqrt{5}$, $xy = 2$, find the value of : $\frac{x+y}{xy}$

4 [a] Find the S.S. of the inequality : $-2 \leq 3x + 7 < 10$ in \mathbb{R} , then represent the interval of solution on the number line.

[b] Find the height of a right circular cylinder whose height is equal to its base radius length and its volume is $72\pi \text{ cm}^3$

5 [a] Simplify to the simplest form : $\sqrt{18} + \sqrt[3]{54} - 3\sqrt{2} - \frac{1}{2}\sqrt[3]{16}$

[b] Find the arithmetic mean of the following frequency distribution :

Sets	5 –	15 –	25 –	35 –	45 –	Total
Frequency	4	5	6	3	2	20

12

Ismailia Governorate


 Directorate of Education
Math's Supervision

Answer the following questions :

1 Choose the correct answer :

1 The slope of y-axis is

- (a) 0 (b) $\frac{1}{2}$ (c) undefined. (d) -1

2 The mean of 8 , 19 , 11 , 12 , 10 is

- (a) 12 (b) 15 (c) 20 (d) 11

3 The multiplicative inverse of $\frac{\sqrt{6}}{2}$ is

- (a) $-\frac{\sqrt{6}}{2}$ (b) $\frac{\sqrt{6}}{3}$ (c) $\frac{\sqrt{6}}{2}$ (d) $2\sqrt{6}$

4 If the age of Ali now is x years , then his age after 12 years is years.

- (a) $x + 12$ (b) $x - 12$ (c) $x + 15$ (d) $12x$

5 $\sqrt[3]{125} = \sqrt{\dots}$

- (a) 5 (b) 100 (c) 10 (d) 25

6 If the mode of : 7 , 10 , $k + 3$, 9 is 7 , then $k = \dots$

- (a) 3 (b) 10 (c) 4 (d) 9

2 Complete :

1 $4a^5 \times 5a^2 = \dots$

2 The median of : 15 , 7 , 16 , 9 , 4 , 20 is

3 $[2, 7] - \{2, 7\} = \dots$

4 If (3 , k) satisfies the relation : $2x + y = 10$, then $k = \dots$

5 $\{1, 2, 3\} \cap \{2, 4, 5\} = \dots$

3 [a] The area of a sphere is 616 cm^2 . Find its diameter length $(\pi = \frac{22}{7})$

[b] Graph the relation : $y = 2x$

[c] Find the slope of \overrightarrow{AB} where A (-1 , 5) , B (2 , 6)

4 [a] Simplify : $\sqrt{72} + 2\sqrt{32} - 3\sqrt{2}$

[b] Find the S.S. in \mathbb{R} and represent it on the number line of : $1 < 3 - 2x \leq 11$

5 [a] If $A = [-2, 3]$, $B =]0, 5[$, using the number line find :

1 $A \cup B$

2 $A \cap B$

3 $A - B$

[b] From the following frequency distribution :

Sets	10 -	20 -	30 -	40 -	50 -	Total
Frequency	7	10	8	6	9	40

Find the mean.

13 Kafr El-Sheikh Governorate



Math Supervision

Answer the following questions :

1 Choose the correct answer :

1 The S.S. of the equation : $x(x^2 + 4) = 0$ in \mathbb{R} is

(a) $\{4\}$

(b) $\{0\}$

(c) $\{-4, 0\}$

(d) $\{4, -4\}$

2 The slope of the straight line which is perpendicular to x -axis is

(a) 1

(b) zero

(c) -1

(d) undefined.

3 If the arithmetic mean of the numbers : 5, 4, $x-3$, 6, 4 is 4, then $x =$

(a) 5

(b) 4

(c) 6

(d) 3

4 If the mode of the numbers : 5, 2, 4, $x-2$ is 5, then $x =$

(a) 4

(b) 6

(c) 7

(d) 5

5 If $-2x < 6$, then x

(a) < 6

(b) > -3

(c) > 6

(d) > -6

6 $\mathbb{Z} \cap \mathbb{N} =$

(a) $\{0\}$

(b) \mathbb{Z}_-

(c) \mathbb{N}

(d) \mathbb{Q}

2 Complete the following :

1 The multiplicative inverse of the number $\sqrt{10} - 3$ is

2 $[3, 5] -]3, 5[=$

3 The median of the numbers : 41, 19, 15, 30, 20 is

4 $\sqrt{18} - \sqrt{2} =$

5 If the slope of the straight line passing through $(2, k)$, $(3, -1)$ is 2, then $k =$

3 [a] Find the lateral area of the right circular cylinder of volume $150\pi \text{ cm}^3$ and height 6 cm.

[b] Find in the simplest form : $3\sqrt{2} + \sqrt{8} - \sqrt{18}$

4 [a] Find in \mathbb{R} the S.S. of the inequality : $x < 2x - 1 < x + 3$

[b] If $x = \sqrt{7} - \sqrt{5}$, $y = \frac{2}{x}$, find : $\frac{x+y}{xy}$ in the simplest form.

5 [a] If $(-1, 5)$ satisfies the relation : $3x + ky = 7$, then find k

[b] The following table shows the frequency of marks of 50 students :

Sets	2 –	6 –	10 –	14 –	ℓ –	22 –	26 –	Total
Frequency	3	6	8	10	11	k	4	50

Find : 1 The value of each of ℓ and k

2 The arithmetic mean for the marks of students.

14 Souhag Governorate



Akhmeem Educational Management
Private Future Generation Language School

Answer the following questions :

1 Choose the correct answer :

1 The simplest form of $(\sqrt{3} - \sqrt{2})(\sqrt{3} + \sqrt{2})$ is

(a) $\sqrt{3}$ (b) 1 (c) $\sqrt{2}$ (d) $2\sqrt{3}$

2 The volume of a cube is 64 cm^3 , then its edge length is cm.

(a) 4 (b) 8 (c) 16 (d) 64

3 The mean of the values : 34, 23, 25, 40, 22, 12 is

(a) 22 (b) 23 (c) 24 (d) 26

4 If the point $(k, 1)$ satisfies the relation : $x + y = 5$, then $k =$

(a) 1 (b) -4 (c) 4 (d) 5

5 $(2\sqrt[3]{2})^3 =$

(a) 4 (b) 8 (c) 16 (d) 40

6 If the mode of the values : 4, 11, 8, $2x$ is 4, then $x =$

(a) 2 (b) 4 (c) 6 (d) 8

2 Complete :

1 The S.S. of : $x^2 + 9 = 0$ in \mathbb{R} is

2 $\sqrt{8} + \sqrt{18} - 3\sqrt{2} =$

Algebra and Statistics

- 3 The mode of : 3 , 5 , 3 , 4 , 3 is
- 4 $]-2, 2[\cup \{-2, 2\} = \dots\dots\dots$
- 5 If the volume of a sphere $= \frac{9}{2} \pi \text{ cm}^3$, then its diameter length equals cm.
-
- 3 [a] Find in the simplest form : $\sqrt{18} + \sqrt{32} - 3\sqrt{2} - \frac{1}{2}\sqrt{8}$
- [b] If $x = \sqrt{5} - \sqrt{2}$, $y = \frac{3}{\sqrt{5} - \sqrt{2}}$, prove that : x and y are two conjugate numbers.
-
- 4 [a] Represent graphically the linear relation : $y = 2 - x$
- [b] Find the solution set of the inequality :
 $-2 < 3x + 7 \leq 10$ in \mathbb{R} , then represent the S.S. on the number line.
-
- 5 [a] A right circular cylinder of radius length 4 cm. and its height is 9 cm.
 Find its volume in terms of π

- [b] Find the arithmetic mean of the following frequency distribution :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	7	10	12	13	8	50

15 Aswan Governorate



Aswan Educational Directorate
Math's Supervision

Answer the following questions :

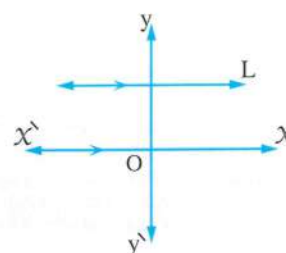
- 1 Choose the correct answer :
- 1 The multiplicative inverse of $\frac{\sqrt{3}}{5}$ is
- (a) $-\frac{\sqrt{3}}{5}$ (b) $\frac{5}{3}$ (c) $\frac{3}{5}$ (d) $\frac{5\sqrt{3}}{3}$
- 2 If $x = \sqrt{6} - \sqrt{2}$, $y = \frac{4}{x}$, then $y = \dots\dots\dots$
- (a) 4 (b) $\sqrt{6} + \sqrt{2}$ (c) 10 (d) $\sqrt{8}$
- 3 If the ordered pair $(2k, k)$ satisfies the relation : $y + 2x = 5$, then $k = \dots\dots\dots$
- (a) 1 (b) 2 (c) 3 (d) 4
- 4 If the lower boundary of a set is 4 and the upper boundary is 8, then its centre is
- (a) 2 (b) 4 (c) 6 (d) 8
- 5 $[1, 5] - \{1, 5\} = \dots\dots\dots$
- (a) $[2, 4]$ (b) $]1, 5[$ (c) $]0, \infty[$ (d) $]1, 5]$

6 In the opposite figure :

The slope of the straight line

L is

- (a) positive. (b) negative.
(c) zero. (d) undefined.



2 Complete each of the following :

1 $\sqrt[3]{64} = \sqrt{\dots\dots\dots}$

2 In the relation : $y = 3x + 4$, if $y = 1$, then $x = \dots\dots\dots$

3 If the mode of the values : 12 , 7 , $x + 1$, 7 , 12 is 7 , then $x = \dots\dots\dots$

4 $[-2, 5[\cap \mathbb{R}_+ = \dots\dots\dots$

5 The median of the set of values : 34 , 23 , 25 , 40 , 22 , 4 is

3 [a] Find in the simplest form the value of : $\sqrt[3]{128} + \sqrt[3]{16} + 2\sqrt[3]{-54}$

[b] If $x = \sqrt{3} + 1$ and $y = \frac{2}{\sqrt{3} + 1}$

1 Prove that : x and y are conjugate.

2 Find the value of : $\frac{x+y}{xy}$ in the simplest form.

4 [a] If $X =]-1, 4]$ and $Y = [3, \infty[$, using the number line find each of the following :

1 $X \cup Y$

2 $X - Y$

3 $X \cap Y$

[b] Find the S.S. in \mathbb{R} of : $-2 \leq 3x + 7 \leq 10$ and represent it on the number line.

5 [a] Represent graphically the relation $y = 2 - x$ and if $(-4, b)$ satisfies the relation , find the value of b

[b] Find the arithmetic mean of the following frequency distribution :

Sets of marks	5 -	15 -	25 -	35 -	45 -	Total
Number of pupils	7	10	12	13	8	50

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

